

LINDBLOM et al
Serial No. 09/688,152

Atty Dkt: 2380-154
Art Unit: 2661

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Cancelled)

2. (Previously Presented) The method of claim 4, further comprising a fault-detecting switch port interface unit sending a fault detection cell to the second switch plane upon detection of a fault in the first switch plane.

3. (Currently Amended) A method of operating a multi-plane cell switching node, the cell switching node having a first switch plane; a second switch plane; and plural switch port interface units; the method comprising:

in response to detection of a fault in the first switch plane, the second switch plane:

 sending a plane change cells to the plural switch port interface units;

 stopping egress traffic flow from the second switch plane;

in response to receipt of the plane change cells, redirecting traffic cells sent by the plural switch port interface units from the first switch plane to the second switch plane;

determining when traffic cells destined to a particular switch port interface unit have been flushed from the first switch plane; and thereafter

starting the egress traffic flow from the second switch plane to the particular switch port interface unit;

wherein a fault-detecting switch port interface unit sends a fault detection cell to the second switch plane upon detection of a fault in the first switch plane;

wherein in response to the receipt of the fault detection cell, the second switch plane sends a broadcast plane change signal to plural cell receiving units of the second switch plane, the plural cell receiving units corresponding to the plural switch port interface units, and wherein the plural cell receiving units generate the plane change cells for sending to the respective plural switch port interface units.

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4. (Currently Amended) A method of operating a multi-plane cell switching node, the cell switching node having a first switch plane; a second switch plane; and plural switch port interface units; the method comprising:

in response to detection of a fault in the first switch plane, the second switch plane:

sending a plane change cells to the plural switch port interface units;
stopping egress traffic flow from the second switch plane;

in response to receipt of the plane change cells, redirecting traffic cells sent by the plural switch port interface units from the first switch plane to the second switch plane;

determining when traffic cells destined to a particular switch port interface unit have been flushed from the first switch plane; and thereafter

starting the egress traffic flow from the second switch plane to the particular switch port interface unit;

the step of sending a the plane change cells to the plural switch port interface units occurring in response to the second switch plane sending a broadcast plane change signal to plural cell receiving units of the second switch plane, the plural cell receiving units corresponding to the plural switch port interface units, and

generating at the plural cell receiving units the plane change cells for sending to the respective plural switch port interface units.

5. (Previously Presented) The method of claim 4, wherein the step of determining when traffic cells have been flushed from the first switch plane comprises:

sending first predetermined non-traffic cells from the plural switch port interface units to the first switch plane;

in accordance with receipt of the first predetermined non-traffic cells via the first switch plane at a particular switch port interface unit, sending a second predetermined non-traffic cell from the particular switch port interface unit to the second switch plane; and

wherein the step of starting the egress traffic flow from the second switch plane to the particular switch port interface unit is performed upon reception of the second predetermined non-traffic cell from the particular switch port interface unit at the second switch plane.

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6. (Original) The method of claim 5, wherein the first predetermined non-traffic cells are synchronization cells.

7. (Original) The method of claim 5, wherein the second predetermined non-traffic cell is a management cell.

8. (Previously Presented) The method of claim 4, further comprising stopping ingress of cells to the first switch plane and the second switch plane until expiration of a predetermined time.

9. (Currently Amended) The method of claim 8, further comprising setting the predetermined time sufficiently long to ensure that the slowest switch port interface unit has had time to receive the its plane change cell and to redirect traffic cells to the second switch plane.

10. (Previously Presented) The method of claim 4, wherein prior to the fault detection the first switch plane serves as an active switch plane and the second switch plane serves as a passive switch plane.

11. (Cancelled)

12. (Previously Presented) The method of claim 14, further comprising stopping ingress of cells to the first switch plane and the second switch plane until expiration of a predetermined time.

13. (Original) The method of claim 12, further comprising setting the predetermined time sufficiently long to ensure that the slowest switch port interface unit has had time to receive the its plane change cell and to redirect traffic cells to the second switch plane.

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14. (Currently Amended) A method of operating a multi-plane cell switching node, the cell switching node having a first switch plane; a second switch plane; and plural switch port interface units; the method comprising:

a fault-detecting switch port interface unit sending a fault detection cell to the second switch plane upon detection of a fault in the first switch plane;

in response to receipt of the fault detection cell, the second switch plane:

sending a plane change cells to the plural switch port interface units;

stopping egress traffic flow in the second switch plane;

in response to receipt of the plane change cells, redirecting traffic cells sent from the plural switch port interface units from the first switch plane to the second switch plane;

sending first predetermined non-traffic cells from the plural switch port interface units to the first switch plane;

in accordance with receipt of the first predetermined non-traffic cells via the first switch plane at a particular switch port interface unit, sending a second predetermined non-traffic cell from the particular switch port interface unit to the second switch plane;

using the second predetermined non-traffic cell to start egress flow of cells from the second switch plane to the particular switch port interface unit;

wherein in response to the receipt of the fault detection cell, the second switch plane sends a broadcast plane change signal to plural cell receiving units of the second switch plane, the plural cell receiving units corresponding to the plural switch port interface units, and wherein the plural cell receiving units generate the plane change cells for sending to the respective plural switch port interface units.

15. (Previously Presented) The method of claim 14, wherein prior to the fault detection the first switch plane serves as an active switch plane and the second switch plane serves as a passive switch plane.

16. (Cancelled)

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17. (Previously Presented) The apparatus of claim 19, further comprising a fault detecting switch port interface unit which sends a fault detection cell to the second switch plane upon detection of a fault in the first switch plane.

18. (Currently Amended) A multi-plane cell switching node comprising:
a first switch plane;
plural switch port interface units;
a second switch plane which, in response to detection of a fault in the first switch plane, stops egress traffic flow from the second switch plane and sends a plane change cells to the plural switch port interface units;

wherein, in response to receipt of the plane change cells, the switch port interface units redirect traffic cells to the second switch plane and, upon determining when traffic cells have been flushed from the first switch plane; send an egress traffic flow-starting cell to the second switch plane;

a fault-detecting switch port interface unit which sends a fault detection cell to the second switch plane upon detection of a fault in the first switch plane;

plural cell receiving units of the second switch plane, the plural cell receiving units corresponding to the plural switch port interface units, and wherein in response to the receipt of the fault detection cell, the second switch plane sends a broadcast plane change signal to the plural cell receiving units, and in response the plural cell receiving units generate the plane change cells for sending to the respective plural switch port interface units.

19. (Currently Amended) A multi-plane cell switching node comprising:
a first switch plane;
plural switch port interface units;
a second switch plane which, in response to detection of a fault in the first switch plane, stops egress traffic flow from the second switch plane and sends a plane change cells to the plural switch port interface units;

wherein, in response to receipt of the plane change cells, the switch port interface units redirect traffic cells to the second switch plane and, upon determining when traffic

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cells have been flushed from the first switch plane; send an egress traffic flow-starting cell to the second switch plane;

plural cell receiving units of the second switch plane, the plural cell receiving units corresponding to the plural switch port interface units, and wherein the second switch plane sends the plane change cells to the plural switch port interface units in response to the second switch plane sending a broadcast plane change signal to the plural cell receiving units of the second switch plane, and wherein the plural cell receiving units generate the plane change cells for sending to the respective plural switch port interface units.

20. (Previously Presented) The apparatus of claim 19, wherein the plural switch port interface units send first predetermined non-traffic cells through the first switch plane and detect reception of the first predetermined non-traffic cells from the first switch plane, whereupon the switch port interface units send a second predetermined non-traffic cell to the second switch plane; and wherein the second switch plane starts the egress traffic flow from the second switch plane to the respective switch port interface units upon reception of the second predetermined non-traffic cell at the second switch plane.

21. (Original) The apparatus of claim 20, wherein the first predetermined non-traffic cells are synchronization cells.

22. (Original) The apparatus of claim 20, wherein the second predetermined non-traffic cell is a management cell.

23. (Currently Amended) The apparatus of claim 19, wherein the second switch plane stops ingress of cells to the first switch plane and the second switch plane until expiration of a predetermined time.

24. (Currently Amended) The apparatus of claim 23, wherein the predetermined time is set sufficiently long to ensure that the slowest switch port interface unit has had time to receive the plane change cells and to redirect traffic to the second switch plane.

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25. (Previously Presented) The apparatus of claim 19, wherein prior to the fault detection the first switch plane serves as an active switch plane and the second switch plane serves as a passive switch plane.

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